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Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re Patent Application of
Steven R. Eskildsen et al.

Application No. 09/103,110

Filing Date: June 23, 1998

For: IC PACKAGE WITH EDGE CONNECT
CONTACTS

Examiner: Dinh, T.

Art Unit: 2841

#17/Amend
R. Tyson
10/23/01

Assistant Commissioner for Patents
Washington, D.C. 20231

10/23/01
✓

AMENDMENT

Dear Sir:


In response to the Office Action mailed June 13, 2001, which was
made final, applicants respectfully request that the above-identified
application be amended as follows.

"Express Mail" mailing label number EL143571161US
Date of Deposit: 10/15/01
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IN THE SPECIFICATION

In the specification, delete the paragraph at page 1, lines 7-8 and substitute the following paragraph. A marked-up version of the changes is set forth at the end of this amendment.

 The present invention is related to the U.S. Patent Application entitled "IC Package with Quick Connect Feature", Patent No. 6,250,934B1, issued June 26, 2001.

IN THE CLAIMS

Cancel claims 1-14 without prejudice. Add the following new claims 15-24.

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- 1 15. An apparatus for use in a data processing device, comprising:
 - 2 an IC package having multiple leads extending from the IC package;
 - 3 a first receptacle receiving the IC package, the first receptacle
 - 4 comprising a first opening such that the first opening receives the multiple
 - 5 leads and provides an opening for connection to the multiple leads, a second
 - 6 opening such that the IC package is inserted into the first receptacle through
 - 7 the second opening, and at least one stop positioned at the second opening
 - 8 such that the stop holds the IC package securely within the first receptacle
 - 9 when the IC package is fully inserted into the first receptacle;

10 a second receptacle receiving the first receptacle, the second
11 receptacle comprising multiple electrical contacts to contact the multiple
12 leads of the IC package through the first opening of the first receptacle.

1 16. The apparatus of claim 15, wherein the first opening is a front
2 opening.

1 17. The apparatus of claim 15, wherein the second opening is a back
2 opening such that the IC package is inserted into the first receptacle from a
3 back of the first receptacle.

1 18. The apparatus of claim 15, wherein the second opening is a bottom
2 opening such that the IC package is inserted into the first receptacle from a
3 bottom of the first receptacle using a rotating movement.

1 19. The apparatus of claim 15, wherein the first receptacle provides a
2 physical and electrostatic discharge protection for the IC package.

1 20. A method for use in a data processing device, comprising:
2 providing an IC package, the IC package having multiple leads
3 extending from the IC package;
4 providing a first receptacle, the first receptacle having a first opening,
5 a second opening, and at least one stop positioned at the second opening;

6 inserting the IC package into the first receptacle through the second
7 opening, such that when the IC package is fully inserted into the first
8 receptacle, the first opening receives the multiple leads and provides an
9 opening for connection to the multiple leads, and the stop holds the IC
10 package securely within the first receptacle;
11 providing a second receptacle, the second receptacle having multiple
12 electrical contacts;
13 inserting the first receptacle into the second receptacle, such that
14 when the first receptacle is inserted into the second receptacle, the multiple
15 electrical contacts contact the multiple leads through the first opening of the
16 first receptacle.

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1 21. The method of claim 20, wherein the first opening is a front opening.

1 22. The method of claim 20, wherein the second opening is a back
2 opening such that the IC package is inserted into the first receptacle from a
3 back of the first receptacle.

1 23. The method of claim 20, wherein the second opening is a bottom
2 opening such that the IC package is inserted into the first receptacle from a
3 bottom of the first receptacle using a rotating movement.

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concl'd

- 1 24. The method of claim 20, wherein the first receptacle provides a
 - 2 physical and electrostatic discharge protection for the IC package.
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REMARKS

Reconsideration of this application as amended is respectfully requested.

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,408,386 to Ringer *et al.* ("Ringer"). Claims 3-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ringer in view of U.S. Patent No. 4,926,034 to Banjo *et al.* ("Banjo"). Claims 5-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ringer in view of U.S. Patent No. 5,735,040 to Ochi *et al.* ("Ochi"). Claims 7-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ringer in view of Banjo and Ochi.

Claims 1-14 have been canceled. New claims 15-24 have been added.

Support for new claims 15-24 is found in the specification at pages 8-16, in Figures 1-6, and in claims 1-14 as originally filed. It is respectfully submitted that new claims 15-24 do not add new matter.

Claim Objection

Claim 1 is objected to. Specifically, the Examiner states that:

Claim 1 is objected to because of the following informalities:
Claim 1, line 3 delete "to" between – is and encase --.
Appropriate correction is required.

(p. 2 Office Action 06/13/2001).

Applicants respectfully submit that the objection has been overcome because claim 1 has been canceled.

35 U.S.C. § 102(b) Rejection

The Examiner has rejected claims 1 and 2 as being anticipated by U.S. Patent 5,408,386 to Ringer. In particular, the Examiner states:

As to claim 1, Ringer discloses an IC card (17-figures 1-4, column 4, line 16 comprising an IC package (13, column 4, lines 26-27) having multiple leads (15, column 4, line 28) extended away from the IC package (see figure 1). A casing (12; 14, column 14, line 15) to allow said IC package to be inserted into said casing, such that if the casing is inserted into a data processing device (column 4, lines 36-40), the leads (15) of the IC package is to provide an electrical interface between the IC package and the data processing device without the use of the printed circuit board and connector (column 10, lines 1-5, column 16, lines 33-41).

As to claim 2, Ringer discloses the IC card as shown in figures 3 and 4 wherein the casing having a front surface including a front opening (32, column 5, line 41).

(p.2 Office Action 6/13/01).

Applicants respectfully submit that new claim 15 is not anticipated by Ringer. New claim 15 includes the following limitations:

- an IC package having multiple leads extending from the IC package;

- a first receptacle receiving the IC package, the first receptacle comprising a first opening such that the first opening receives the multiple leads and provides an opening for connection to the multiple leads, a second opening such that the IC package is inserted into the first receptacle through the second opening, and at least one stop positioned at the second opening such that the stop holds the IC package securely within the first receptacle when the IC package is fully inserted into the first receptacle;

- a second receptacle receiving the first receptacle, the second receptacle comprising multiple electrical contacts to contact the multiple leads of the IC package through the first opening of the first receptacle.

(New claim 15).

In contrast, Ringer discloses a socket for a plurality of removably mountable peripheral devices to a computer including a receptacle for receiving the body of such removably mountable devices (column 5, lines 32-42). In particular, Ringer discloses a first socket 12 and a second socket 14, each of

which is mounted over a stable platform 17 (typically a circuit board) (column 4, lines 16-17 and Figures 1-4).

Ringer does not disclose a first receptacle receiving the IC package, the first receptacle comprising a first opening, a second opening, and at least one stop positioned at the second opening, as recited in new claim 15. Specifically, Ringer does not disclose a stop that holds the IC package securely within the first receptacle when the IC package is fully inserted into the first receptacle, as recited in new claim 15.

In addition, Ringer does not disclose a second receptacle receiving a first receptacle as recited in new claim 15. By way of contrast, Ringer discloses a socket receiving removably mountable devices.

Therefore, in view of the above distinctions, Ringer does not disclose each and every limitation of new claim 15. As such, new claim 15 is not anticipated by Ringer.

Given that new claims 16-19 depend from new claim 15, applicants submit that new claims 16-19 are not anticipated by Ringer.

Furthermore, applicants respectfully submit that new claim 20 is not anticipated by Ringer. New claim 20 includes the following limitations.

- providing an IC package, the IC package having multiple leads extending from the IC package;

- providing a first receptacle, the first receptacle having a first opening, a second opening, and at least one stop positioned at the second opening;

- inserting the IC package into the first receptacle through the second opening, such that when the IC package is fully inserted into the first receptacle, the first opening receives the multiple leads

and provides an opening for connection to the multiple leads, and the stop holds the IC package securely within the first receptacle; providing a second receptacle, the second receptacle having multiple electrical contacts; inserting the first receptacle into the second receptacle, such that when the first receptacle is inserted into the second receptacle, the multiple electrical contacts contact the multiple leads through the first opening of the first receptacle.

(New claim 20).

In contrast, Ringer does not disclose a method of providing a first receptacle, the first receptacle having a first opening, a second opening, and at least one stop positioned at the second opening, as recited in new claim 20. Nor does Ringer disclose a method of inserting the IC package into the first receptacle through the second opening such that when the IC package is fully inserted into the first receptacle, the first opening receives the multiple leads and provides an opening for connection to the multiple leads and the stop holds the IC package securely within the first receptacle, as recited in new claim 20. In addition, Ringer does not disclose a method of inserting a first receptacle into a second receptacle, as recited in new claim 20.

Therefore, new claim 20 is not anticipated by Ringer.

Given that new claims 21-24 depend from new claim 20, applicants submit that new claims 21-24 are not anticipated by Ringer.

U.S.C. § 103 Rejections

The Examiner has rejected claims 3-4 under 35 U.S.C. § 103(a) as being unpatentable over Ringer in view of Banjo. In particular, the Examiner states:

As to claims 3 and 4, Ringer discloses all of the limitations of claimed invention, except for the IC card having a surface including

a back opening, and there are at least one stop at the back opening. Banjo teaches the IC card (100) as shown in figure 4A-4C comprising a bottom surface having a bottom opening (2) and including at least one stop (21) at the back opening to hold the IC package in the casing (column 2, lines 62-65, column 3, lines 5-16).

(p. 3 Office Action 6/13/01).

Applicants respectfully submit that Banjo does not cure the deficiencies of Ringer with respect to new claim 15.

Banjo discloses a card reader connector 100 having electrodes 9 for receiving an IC card 4 (see Figures 4A-4C and 5A-5C).

Banjo does not disclose a first receptacle receiving the IC package, the first receptacle comprising a first opening such that the first opening receives the multiple leads and provides an opening for connection to the multiple leads, a second opening such that the IC package is inserted into the first receptacle through the second opening, and at least one stop positioned at the second opening such that the stop holds the IC package securely within the first receptacle when the IC package is fully inserted into the first receptacle, as recited in new claim 15.

In particular, Banjo does not disclose at least one stop positioned at the second opening as recited in claim 15. By way of contrast, Banjo discloses pins 21 to move the shutter 7 when the IC card is inserted into the connector (column 2, lines 66-68, column 3, lines 1-2).

Thus, Banjo individually does not disclose every limitation of new claim 15.

It is respectfully submitted that Ringer does not suggest a combination with Banjo and Banjo does not suggest a combination with Ringer. It would be

impermissible hindsight to combine Ringer with Banjo based on applicants' own disclosure.

Furthermore, even if Ringer and Banjo were combined, such a combination would not disclose a first receptacle receiving the IC package, the first receptacle comprising a first opening, a second opening, and at least one stop positioned at the second opening such that the stop holds the IC package securely within the first receptacle when the IC package is fully inserted into the first receptacle, as recited in new claim 15.

Therefore, neither Ringer nor Banjo individually or in combination discloses each and every limitation of new claim 15. As such, new claim 15 is not rendered obvious by Ringer in view of Banjo under 35 U.S.C. § 103(a). Given that new claims 16-19 depend from new claim 15, new claims 16-19 are not rendered obvious by Ringer in view of Banjo.

The Examiner has rejected claims 5-6 under 35 U.S.C. § 103(a) as being unpatentable over Ringer in view of Ochi. In particular, the Examiner states:

As to claims 5-6, Ringer discloses an IC card and satisfies all of the limitation of the claims, except for the IC card wherein the casing having the bottom surface that has a bottom opening, and the casing has at least one stop at the bottom opening. Ochi shows the IC card (10) having the casing that has the bottom surface including the opening (2a), the casing has at least one stop (20) (column 3, line 65-67, column 4, lines 1-4).

(p. 4 Office Action 6/13/2001).

Applicants respectfully submit that Ochi does not cure the deficiencies of Ringer with respect to new claim 15.

Ochi discloses an IC card 10 having obverse and reverse main surfaces. Mounted at one of these main surfaces on the circuit board 2 are an IC package 3, and another part 5 with a circuit pattern 2b being formed at least at the mounting surface of the circuit board 2 (column 3, lines 55-60 and Figures 1 and 2).

Ochi does not disclose a first receptacle receiving the IC package, the first receptacle comprising a first opening such that the first opening receives the multiple leads and provides an opening for connection to the multiple leads, a second opening such that the IC package is inserted into the first receptacle through the second opening, and at least one stop positioned at the second opening such that the stop holds the IC package securely within the first receptacle when the IC package is fully inserted into the first receptacle, as recited in new claim 15.

In particular, Ochi does not disclose at least one stop positioned at the second opening as recited in claim 15. Instead, Ochi discloses a pair of electrodes 20 for battery connection (column 4, lines 2-4).

It is also respectfully submitted that Ringer does not suggest a combination with Ochi and Ochi does not suggest a combination with Ringer. It would be impermissible hindsight to combine Ringer with Ochi based on applicants' own disclosure.

Furthermore, even if Ringer and Ochi were combined, such a combination would not disclose a first receptacle receiving the IC package, the first receptacle comprising a first opening, a second opening, and at least one stop positioned at

the second opening such that the stop holds the IC package securely within the first receptacle when the IC package is fully inserted into the first receptacle, as recited in new claim 15.

Therefore, neither Ringer nor Ochi individually or in combination disclose each and every limitation of claim 15. As such, claim 15 is not rendered obvious by Ringer in view of Ochi under 35 U.S.C. § 103(a). Given that claims 16-19 depend from claim 15, claims 16-19 are not rendered obvious by Ringer in view of Ochi.

The Examiner has rejected claims 7-14 under 35 U.S.C. § 103(a) as being unpatentable over Ringer in view of Banjo and Ochi. In particular, the Examiner states:

Regarding to claims 7-14, the method steps are necessitated by the IC card structure as it is disclosed by Ringer in view of Banjo and Ochi.

(p. 5 Office Action 6/13/01).

Applicants respectfully submit that neither Ochi nor Banjo cures the deficiencies of Ringer with respect to new claim 20. New claim 20 includes the following limitations:

providing an IC package, the IC package having multiple leads extending from the IC package;

providing a first receptacle, the first receptacle having a first opening, a second opening, and at least one stop positioned at the second opening;

inserting the IC package into the first receptacle through the second opening, such that when the IC package is fully inserted into the first receptacle, the first opening receives the multiple leads and provides an opening for connection to the multiple leads, and the stop holds the IC package securely within the first receptacle;

providing a second receptacle, the second receptacle having multiple electrical contacts;

inserting the first receptacle into the second receptacle, such that when the first receptacle is inserted into the second receptacle, the multiple electrical contacts contact the multiple leads through the first opening of the first receptacle.

In contrast, neither Ringer, Banjo, nor Ochi, individually or in combination, disclose a method of providing a first receptacle, the first receptacle having a first opening, a second opening, and at least one stop positioned at the second opening as recited in new claim 20. In addition, neither Ringer, Banjo, nor Ochi, individually or in combination, disclose a method of inserting the IC package into the first receptacle through the second opening such that when the IC package is fully inserted into the first receptacle, the first opening receives the multiple leads and provides an opening for connection to the multiple leads, and the stop holds the IC package securely within the first receptacle, as recited in new claim 20.

It is also respectfully submitted that neither Ringer, Banjo, nor Ochi suggest a combination with each other. Furthermore, it would be impermissible hindsight to combine the references based on applicants' own disclosure.

Therefore, in view of the above distinctions, neither Ringer, Banjo, nor Ochi individually or in combination disclose or suggest each and every limitation of new claim 20, new claim 20 is not obvious over Ringer, Banjo, and Ochi. Given that new claims 21-24 depend directly or indirectly from new claim 20, claims 21-24 are not obvious over Ringer, Banjo and Ochi.

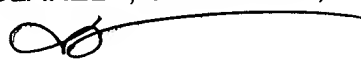
It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. Accordingly, applicants request that new claims 15-24 be found in condition for allowance.

If there are any additional charges, please charge them to Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Dated: 10/15, 2001



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MARKED-UP VERSION TO SHOW CHANGES

IN THE SPECIFICATION

A marked-up version of the paragraph on page 1, lines 7-8, of the specification is provided below. Additions are indicated with “__” and deletions are indicated within “[].”

The present invention is related to the U.S. Patent Application entitled "IC Package with Quick Connect Feature", [Serial No. 09/103,241] Patent No. 6,250,934B1, [and filed on June 23, 1998] issued June 26, 2001.